

HAIRBRUSH

BACKGROUND OF THE INVENTION

[0001] 1. Field of the Invention:

[0002] The present device relates to techniques for improving hairbrushes.

[0003] 2. General Background and State of the Art:

[0004] There presently exist hairbrushes wherein a plastic nylon material includes a multi-element mineral powder formed by crushing a multi-element mineral are blended to form the bristles which are mounted on a brush base (for example, see Patent Document 1 - JP-3042652-U). By virtue of the action of the multi-element mineral powder in the bristles of these hairbrushes, static electricity is not generated by brushing, brushing goes smoothly, and styling is facilitated; furthermore, as a result of negative ions, blood circulation in the hair and scalp is improved simply by brushing, which promotes hair growth and is effective in terms of scalp care.

INVENTION SUMMARY

[0005] However, the foregoing hairbrush designs comprise a multi-element mineral powder only in the bristles, and accordingly, such effects of the multi-element mineral as controlling static electricity, generating negative ions, etc., were only produced from the bristles, so that these effects were not sufficiently produced, and there remained room for further increases in the effects produced by the multi-element mineral. The structural elements of a hairbrush generally comprise: a handle; a bristle mount provided at the end of this handle; and a plurality of bristles which are mounted in this bristle mount. When brushing, the structural element that has the greatest contact with the hair is the bristles, as they pass through the hair, but the bristle mount also contacts the hair.

[0006] The present device is a reflection of the facts described above, and an object hereof is to provide a hairbrush wherein the effects produced by the multi-element mineral, such as

control of static electricity and generation of negative ions, are produced not only from the bristles, but also from the bristle mount so as to increase these effects.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] FIG. 1 is a side view showing a hairbrush, which is a first example of the present device.

[0008] FIG. 2 is a sectional view showing this hairbrush.

[0009] FIG. 3 is a sectional view showing a hairbrush, which is a second example of the present device.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0010] In order to solve the aforementioned problems, the hairbrush of the present device has a structure wherein, a bristle mount is fitted at the end of a handle and a plurality of bristles are mounted in the bristle mount. The bristle mount and the bristles both include a multi-element mineral powder formed by crushing a multi-element mineral which is blended into the material from which the bristles and bristle mount are formed.

[0011] With the present hair brush, as a multi-element mineral powder is in the bristles and the bristle mount, the generation of static electricity is suppressed, not only by the bristles, but also by the bristle mount so that brushing goes smoothly and styling is facilitated. Furthermore, negative ions are generated from the bristles and the bristle mount by the multi-element mineral. Accordingly, a clustering phenomenon is generated in the water component of the hair and the water component of chemical solutions such as hair care products as a result of these negative ions (groups of water molecules are reduced in size), which promotes penetration of the hair by the chemical solutions (pilatories and the like). Furthermore, the negative ions improve blood circulation in the hair and scalp and are effective in promoting hair growth and scalp care. Furthermore, the negative ions act on hair cuticles, so as to maintain good luster at all times. In particular, this is effective on damaged hair and thin, difficult-to-manage hair. Furthermore, electromagnetic waves with wavelengths of 4 to 14 μm (weak energy) emitted by multi-element minerals electrically modify the surroundings of the nuclei of atoms and cause an excited state (oscillation) in the atoms and substances comprising the same. Consequently, water cluster

polymers are cleaved and shortened, the volume of the water is reduced, and the specific gravity is increased. This results in sufficient contact of the outer membranes of cells by the water (free water), promotes the permeation of the cell by both Ca^{2+} and water, and has the effect of activating various cellular functions. Accordingly, this allows for care of the hair and promotes blood circulation in the scalp.

[0012] The term multi-element mineral refers to minerals comprising a good balance of a plurality of elements, such as pitchstone or perlite, which are composed primarily of silicon. It is known that these multi-element minerals release anions. The multi-element mineral powder is, for example, formed by grinding a multi-element mineral to 0.5 to 3 microns, and preferably 0.5 to 1 micron in a bowl mill or the like. This powder is mixed with a coating or plating solution which is applied to the surfaces of the bristles and the bristle mount, so as to coat them. Alternatively, this powder is mixed into the matrix of the bristles and the bristle mount. It is preferable that two or more types of multi-element mineral powders be suitably blended, but one type alone may be used. The multi-element mineral powder may be mixed with water, and after heating or pressurization, the supernatant may be used without further processing, or a powder produced by freeze-drying or spray-drying thereof may be used.

[0013] For the aforementioned hairbrush, in addition to the bristle mount and bristles, a mode is possible wherein the handle includes a multi-element mineral powder. If a multi-element mineral powder is included in the handle as well, multi-element mineral effects, such as control of static electricity and generation of negative ions and electromagnetic waves (weak energy), are also produced from this handle, which increases the effects of this multi-element mineral. Furthermore, if the handle includes a multi-element mineral powder, the blood circulation in the hand of the user is improved, which alleviates fatigue in the hands, fingers, and joints, which can prevent tendovaginitis, which is an occupational illness of hairstylists.

[0014] Furthermore, in the aforementioned hairbrush, a mode is possible wherein, in addition to the multi-element mineral powder, a far-infrared emitting powder formed by crushing a far-infrared emitting material is included in the components of the hairbrush.

[0015] If, in addition to the multi-element mineral powder, the hair brush also includes a far-infrared emitting powder formed by crushing a far-infrared emitting material, far-infrared

radiation is emitted from this far-infrared emitting powder, which raises the temperature within the hair and the scalp. Consequently, the penetration of the hair by chemical solutions is promoted, and the blood circulation in the scalp can be improved.

[0016] In the following, embodiments of the present device are described in further detail by way of examples illustrated in the drawings.

[0017] FIG. 1 is a side view of a hairbrush 10, which is a first example of the present design. FIG. 2 is a sectional view of hairbrush 10 of FIG 1.

[0018] The hairbrush 10 comprises a handle 21, a bristle mount 22 that is fitted at the end of the handle 21, and a plurality of bristles 23 that are mounted in the bristle mount 22. In this case, the bristle mount 22 is fitted by insertion of lateral edges thereof into locking grooves 30 that are formed at the edges 32 of the handle 21. Note that the handle 21, the bristle mount 22, and the bristles 23, which are structural elements of the hairbrush 10, are formed from a synthetic resin, for example, ABS resin, or the like. The bristle mount 22 and the bristles 23 may be molded as a single body.

[0019] The bristles 23 and the bristle mount 22 comprise a multi-element mineral powder formed by crushing a multi-element mineral and a far-infrared emitting powder formed by crushing a far-infrared emitting material combined into or coated on the material forming the bristles 23 and the bristle mount 22.

[0020] In this case, powdered perlite, which is a multi-element mineral, and powdered alumina (Al_2O_3) and titania (TiO_2), which are far-infrared emitting materials, are mixed into the matrix of the bristles 23 and the bristle mount 22 so as to be dispersed therein. The matrix comprises 0.1% to 3% of the multi-element mineral powder and the far-infrared emitting material powder by weight. Furthermore, the surfaces of the bristles 3 and the bristle mount 2 may be coated with a coating comprising the multi-element mineral powder and the far-infrared emitting material powder, so that this coating layer comprises a multi-element mineral component and a far-infrared emitting material. In this arrangement, 1 liter of a coating solution includes 50 cc of the multi-element mineral powder and the far-infrared emitting material powder.

[0021] Note that the composition of perlite, which is an example of a multi-element mineral, is shown in Table 1.

Table 1

silicon dioxide (SiO ₂)	71.94%
aluminum oxide (Al ₂ O ₃)	14.94%
ferrous oxide (Fe ₂ O ₃)	2.54%
magnesium oxide (MgO)	0.44%
calcium oxide (CaO)	2.47%
alkali oxide (K ₂ O + Na ₂ O)	6.87%
manganese oxide (MnO)	0.03%
phosphoric anhydride (P ₂ O ₅)	0.14%
ignition loss	3.43%
drying loss (at 110°C)	0.07%
other, titanium	Trace

[0022] Furthermore, examples of far-infrared emitting materials include alumina (Al₂O₃), titania (TiO₂), ferrite (Fe₂O₃), chromium oxide (Cr₂O₃), silica (SiO₂), yttria (Y₂O₃), magnesia (MgO), etc. Ground powders thereof can be used alone or in combinations.

[0023] FIG. 3 is a sectional view showing a hairbrush 40 which is a second example of the present device. This hairbrush 40 comprises a handle 41, a bristle mount 42 that is fitted at an end of the handle 41, and a plurality of bristles 43 that are mounted in the bristle mount 42. In this case, the bristle mount 42 is fitted by engaging it with a rim in a locking groove 45 that is formed at the sides of the handle 41. Note that the handle 41 and the bristles 43, which are structural elements of the hairbrush 40, are formed from a synthetic resin (for example, APS resin, or the like) and the bristle mount 42 is formed from a flexible material, such as a synthetic rubber. Furthermore, the bristles 43 are formed as independent members from the bristle mount 42, and are inserted into the bristle mount 42 from the back side thereof, and held in the bristle mount 42 by flanges 46, which are formed at the bottom ends thereof.

[0024] A multi-element mineral powder formed by crushing a multi-element mineral and a far-infrared emitting powder formed by crushing a far-infrared emitting material are preferably included in the bristles 43, the bristle mount 42, and the handle 41. As the handle 41 comprises a multi-element mineral powder formed by crushing a multi-element mineral and a far-infrared emitting powder formed by crushing a far-infrared emitting material, the blood circulation in the

hand of the user is improved, which alleviates fatigue in the hands, fingers, and joints, which is effective in preventing tendovaginitis, which is an occupational illness of hairstylists.

[0025] While specific embodiments of the present device have been described, the specific constitution thereof is not limited to these embodiments. For example, in the examples described above, the bristle mount, the bristles, and the handle include a multi-element mineral powder and a far-infrared emitting powder, but it is possible that one or more of these components do not contain the multi-element mineral powder. Furthermore, when the hairbrush of the present device is used, it may be used alone or in combination with a hairdryer. In terms of the hair dryer, it is preferable that an ion dryer which blows negative ions together with hot or cold air, be used.

[0026] As described above, in the hairbrush of the present device, a multi-element mineral powder is comprised in the bristles and bristle mount, and therefore, static electricity can be prevented from forming, not just on the bristles, but also on the bristle mount, so that brushing goes smoothly and styling is facilitated. Furthermore, negative ions can be generated by the multi-element mineral in the bristles and the bristle mount. Accordingly, a clustering effect (reduction of size of groups of water molecules) is produced in the water component in hair and the water component in chemical solutions, and permeation of the hair by chemical solutions (pilatories and the like) can be promoted. The negative ions improve blood circulation in the hair and scalp and are effective in promoting hair growth, and in terms of scalp care. The negative ions act on hair cuticles so as to maintain good luster at all times. In particular, this is effective on damaged hair and thin, difficult-to-manage hair. Furthermore, electromagnetic waves with wavelengths of 4 to 14 μm (weak energy) emitted by multi-element minerals electrically modify the surroundings of the nuclei of atoms and cause an excited state (oscillation) in the atoms and substances comprising the same. Consequently, water cluster polymers are cleaved and shortened, the volume of the water is reduced, and the specific gravity is increased. This results in sufficient contact of the outer membranes of cells by the water (free water), promotes the permeation of the cell by both Ca^{2+} and water, and has the effect of activating various cellular functions. Accordingly, this allows for care of the hair and promotes blood circulation in the scalp.

[0027] Furthermore, in the hairbrush of the present device the handle may include a multi-element mineral powder and, therefore, multi-element mineral effects, such as control of static electricity and generation of negative ions and electromagnetic waves (weak energy), are also produced from this handle, which increases the effects of this multi-element mineral. Due to the effects of the multi-element mineral powder, the blood circulation in the hand of the user is improved, which alleviates fatigue in the hands, fingers, and joints, which can prevent tendovaginitis, which is an occupational illness of hairstylists.

[0028] Furthermore, in the hairbrush of the present device, in addition to the multi-element mineral powder, the components may include a far-infrared emitting powder formed by crushing a far-infrared emitting material, and therefore, far-infrared radiation is emitted from this far-infrared emitting powder, which raises the temperature within the hair and the scalp. Consequently, the penetration of the hair by chemical solutions is promoted, and the blood circulation in the scalp can be improved.